

GB



Tradesarc 150-1

Tradesarc 180-1



**Instruction manual and
spare parts list**

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1 DIRECTIVE

DECLARATION OF CONFORMITY

Murex Welding Products Ltd, EN8 7TF England, gives its unreserved guarantee that welding power source **Tradesarc 150-1** and **Tradesarc 180-1** from serial number 517 complies with standard EN 60974-1, in accordance with the requirements of directive (72/23/EEC) and addendum (93/68/EEC) and with standard EN 50199 in accordance with the requirements of directive (89/336/EEC) and addendum (93/68/EEC).

On behalf of Murex Welding Products Ltd.

Laxå 2005-05-25



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2 SAFETY

Users of welding equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of welding equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the welding equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the welding equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding
2. The operator must ensure that:
 - no unauthorized person is stationed within the working area of the equipment when it is started up.
 - no-one is unprotected when the arc is struck
3. The workplace must:
 - be suitable for the purpose
 - be free from drafts
4. Personal safety equipment
 - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves.
 - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns.
5. General precautions
 - Make sure the return cable is connected securely.
 - Work on high voltage equipment **may only be carried out by a qualified electrician.**
 - Appropriate fire extinguishing equipment must be clearly marked and close at hand.
 - Lubrication and maintenance must **not** be carried out on the equipment during operation.



WARNING



ARC WELDING AND CUTTING CAN BE INJURIOUS TO YOURSELF AND OTHERS. TAKE PRECAUTIONS WHEN WELDING. ASK FOR YOUR EMPLOYER'S SAFETY PRACTICES WHICH SHOULD BE BASED ON MANUFACTURERS' HAZARD DATA.

ELECTRIC SHOCK - Can kill

- Install and earth the welding unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

FUMES AND GASES - Can be dangerous to health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.

ARC RAYS - Can injure eyes and burn skin.

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

FIRE HAZARD

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

NOISE - Excessive noise can damage hearing

- Protect your ears. Use earmuffs or other hearing protection.
- Warn bystanders of the risk.

MALFUNCTION - Call for expert assistance in the event of malfunction.

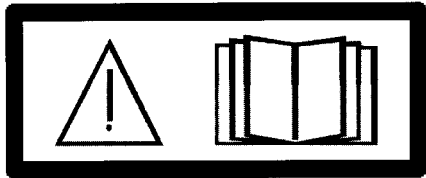
READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.

PROTECT YOURSELF AND OTHERS!



WARNING!

Read and understand the instruction manual before installing or operating.



We can provide you with all necessary welding protection and accessories.



WARNING!

Do not use the power source for thawing frozen pipes.



This product is solely intended for arc welding.

3 INTRODUCTION

The **Tradesarc 150-1**, **Tradesarc 180-1** is a welding current power source intended for use with coated electrodes (MMA welding).

3.1 Equipment

The **Tradesarc** is supplied with 3 m of mains cable and an instruction manual.

Accessories for the product can be found on page 20.

4 TECHNICAL DATA

	Tradesarc 150-1	Tradesarc 180-1
Mains voltage	230 V, 1 ~ 50/60 Hz	230 V, 1 ~ 50/60 Hz
Fuse (delayed-action)	16 A	25 A
Primary current I_{max}	36 A	45 A
Primary current I_{eff}	21 A	30 A
Voltage/current range (DC)	8A /20V - 150A /26V	8A /20V - 180A /27V
Maximum permissible load at		
25% duty cycle	150 A / 26 V	180 A / 27 V
35% duty cycle	140 A / 25,5 V	160 A / 26,5 V
60% duty cycle	110 A / 24,5 V	140 A / 25,5 V
100% duty cycle	90 A / 23,5 V	120 A / 25 V
Power factor at maximum current	0,62	0,58
Efficiency at maximum current	77%	80%
Open-circuit voltage	58-75 V	58-75 V
Operating temperature	-10°C - +40° C	-10°C - +40° C
Constant A-weighted sound pressure	< 70 db	< 70 db
Dimensions, l x b x h	380 x 180 x 300 mm	380 x 180 x 300 mm
Weight	8 kg	8 kg
Enclosure class	IP 23C	IP 23C
Application class	S	S

Duty cycle

The duty cycle refers to the time as a percentage of a ten-minute period that you can weld at a certain load without overloading.

Enclosure class

The **IP** code indicates the enclosure class, i. e. the degree of protection against penetration by solid objects or water. Equipment marked **IP23** is designed for indoor and outdoor use.

Application class

The symbol **S** indicates that the power source is designed for use in areas with increased electrical hazard.

5 INSTALLATION



WARNING!

This product is intended for industrial use. In a domestic environment this product may cause radio interference. It is the user's responsibility to take adequate precautions.

5.1 Placing

Place the welding power source so that its cooling air inlets and outlets are not obstructed.

5.2 Rating plate

The rating plate on the Tradesarc 150-1 is located on the rear plate and on the Tradesarc 180-1 is the rating plate located on the bottom plate of the power source.

5.3 Mains power supply

Make sure that the welding power source is connected to the correct supply voltage and that it is protected by the correct fuse rating. The standards for the country in question must be complied with as regards the mains cable area. A protective earth connection must be made in accordance with regulations.

5.3.1 Recommended fuse ratings and minimum cable areas

	Tradesarc150-1	Tradesarc 180-1
Mains voltage	230 V \pm 10 %, 1-phase	230 V \pm 10 %, 1-fas
Mains frequency	50-60 Hz	50-60 Hz
Fuse (delayed-action):		
85A 35% duty cycle	10 A	10 A
120A 20% duty cycle	16 A	16 A
150A 25% duty cycle	20 A*)	20 A*)
160A 35% duty cycle	-	20 A
180A 25% duty cycle	-	25 A
Mains cable, area	3 x 2.5 mm ²	3 x 4 mm ²
Welding cable, area	16 mm ²	25 mm ²

*) **NOTE!** The mains plug is approved for maximum 16A.

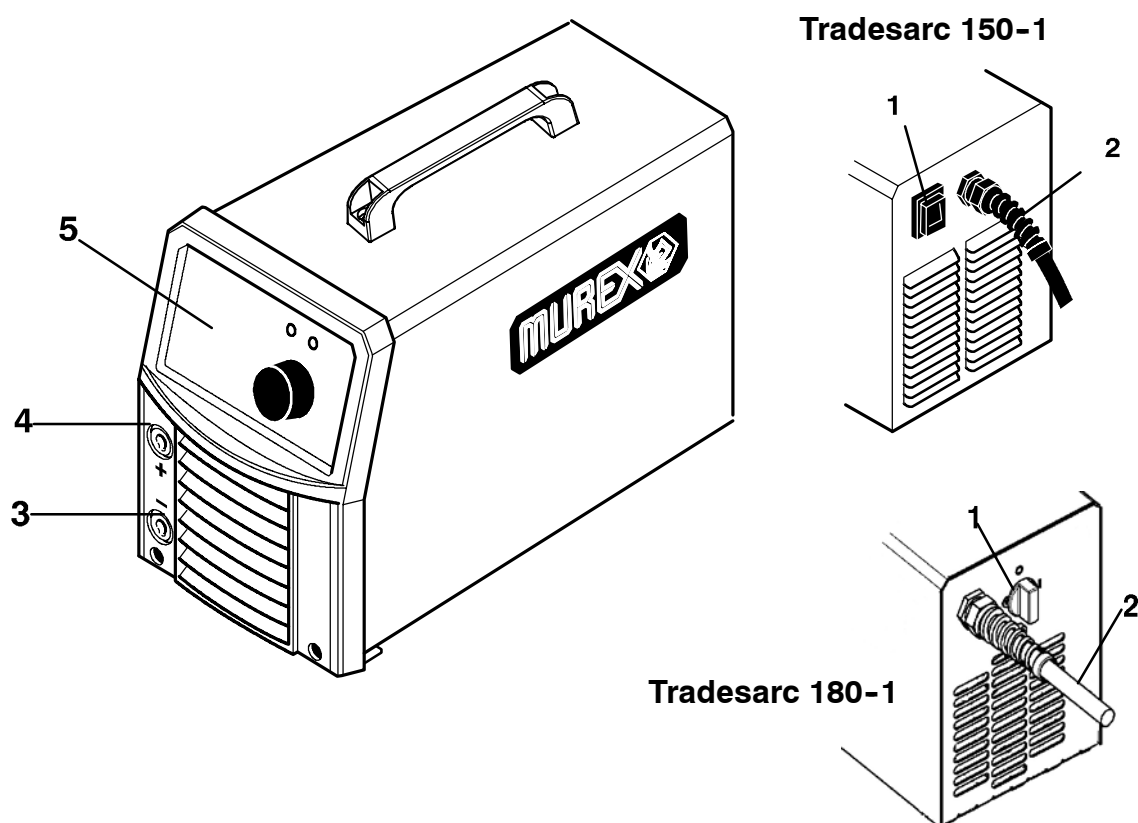
6 OPERATION

General safety regulations for the handling of the equipment can be found on page 3. Read through before you start using the equipment!

6.1 Connections

Make sure that the welding power source is connected to the correct supply voltage and that it is protected by the correct fuse rating.

- | | | | |
|---|---------------------------------|---|------------------------------|
| 1 | Current connection | 4 | Welding cable connection (+) |
| 2 | Mains cable | 5 | Control panel (see 6.3) |
| 3 | Connection for return cable (-) | | |



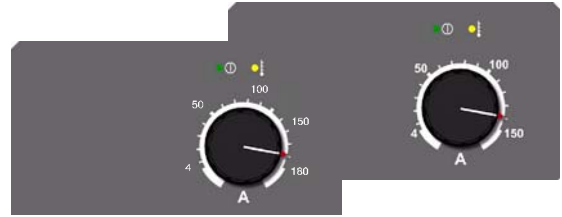
6.2 Connection of welding and return cable

The welding power source has two terminals, one plus and one minus pole, for the connection of the welding and the return cable. Connect the welding cable to the pole indicated on the package of the electrode to be used.

Connect the return cable to the other terminal. Fit the earth clamp of the return cable to the work-piece and make sure there is good contact between the work-piece and the return cable terminal on the welding power source.

6.3 Control panel

- Knob for setting the current
- Mains voltage LED (green)
- Thermal overload trip indicator (yellow)



6.4 Overheating protection

The welding power source has a thermal overload trip which operates if the temperature becomes too high, interrupting the welding current and lighting a yellow indicating lamp on the front of the power source. The thermal overload trip resets automatically when the temperature has fallen.

7 WELDING

The Tradesarc gives direct current, and you can weld most metals to alloy and non-alloy steel, stainless steel and cast iron.

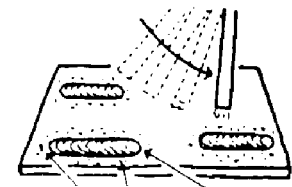
The Tradesarc 150-1 allows you to weld most coated electrodes from \varnothing 1.6 to \varnothing 3.25.

The Tradesarc 180-1 allows you to weld most coated electrodes from \varnothing 1.6 to \varnothing 4.0.

MMA welding may also be referred to as welding with coated electrodes. Striking the arc melts the electrode, and its coating forms protective slag.

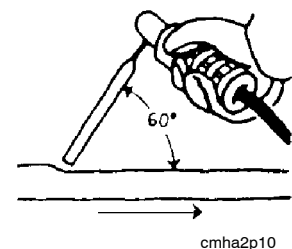
If, when striking the arc, the tip of the electrode is pressed against the metal, it immediately melts and sticks to the metal, rendering continued welding impossible. Therefore, the arc has to be struck in the same way that you would light a match.

Quickly strike the electrode against the metal, then raise it so as to give an appropriate arc length (approx. 2 mm). If the arc is too long, it will crackle and spit before finally going out completely.



If you are working on a welding bench, check before attempting to strike the arc that residual waste metal, pieces of electrode or other objects do not insulate the part to be welded.

Once the arc has been struck, move the electrode from left to right. The electrode must be at an angle of 60° to the metal in relation to the direction of welding.



When you want to weld wide beads, or when you want the weld to be so thick that you have to weld in a number of layers, however, you have to use lateral movements.

8 MAINTENANCE

Regular maintenance is important for safe, reliable operation.

Note!

All guarantee undertakings from the supplier cease to apply if the customer himself attempts any work in the product during the guarantee period in order to rectify any faults.

The Tradesarc requires little maintenance. In normal cases, it is sufficient to blow it clean using dry compressed air once a year, but this should be done more often if it is set up in a dusty, dirty area.

9 FAULT TRACING

Try these recommended checks and inspections before sending for an authorised service technician.

Type of fault	Action
No arc.	<ul style="list-style-type: none"> • Check that the mains power supply switch is turned on. • Check that the welding current supply and return cables are correctly connected. • Check that the correct current value is set.
The thermal overload trips operate frequently.	<ul style="list-style-type: none"> • Check whether the thermal overload trips have operated (indicated by the yellow lamp on the front panel). • Check the main power supply fuses.
The thermal overload trip operates frequently.	<ul style="list-style-type: none"> • Make sure that you are not exceeding the rated data for the welding power source (i.e. that the unit is not being overloaded).
Poor welding performance.	<ul style="list-style-type: none"> • Check that the welding current supply and return cables are correctly connected. • Check that the correct current value is set. • Check that the correct electrodes are being used.

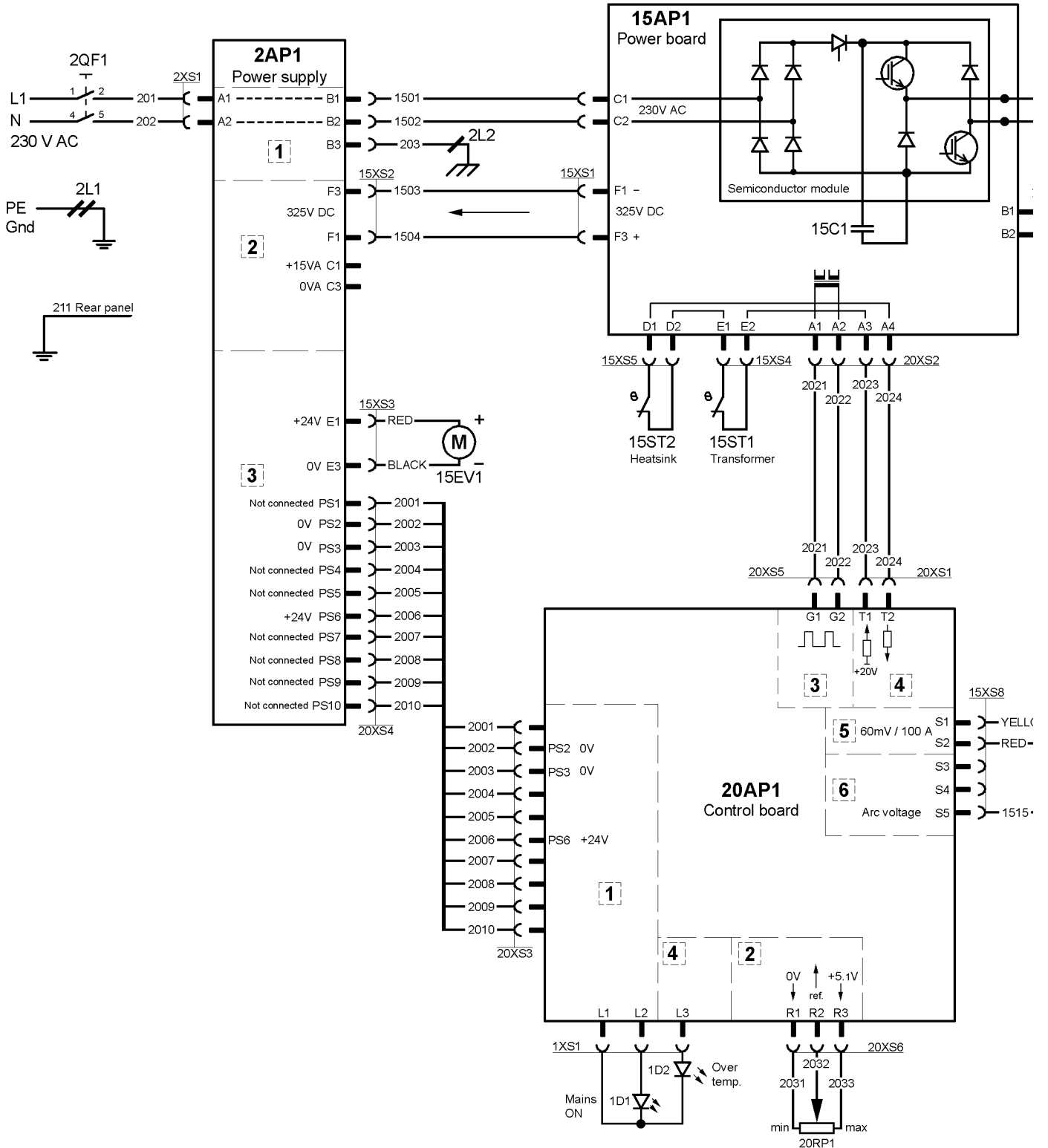
10 ORDERING SPARE PARTS

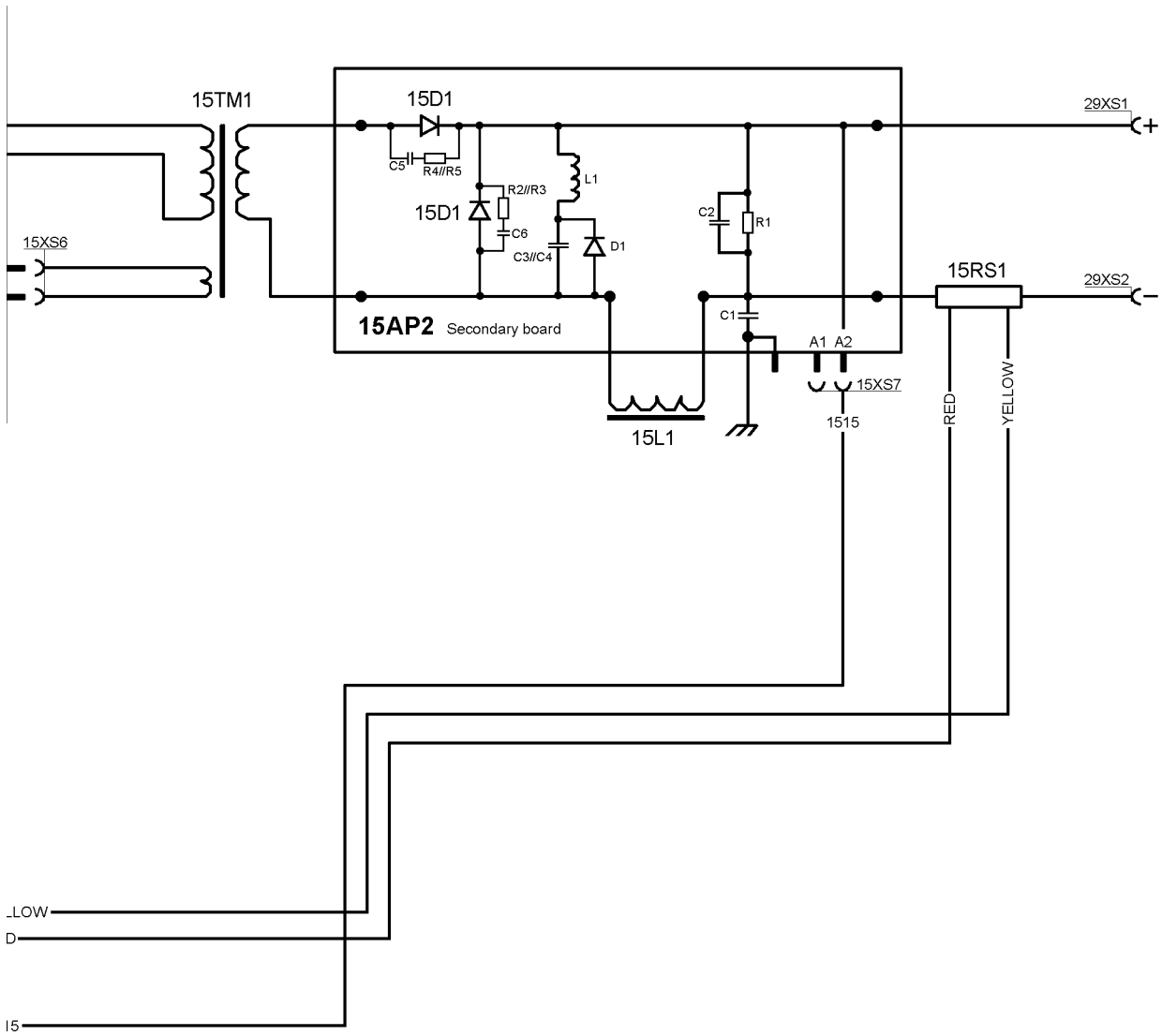
Repair and electrical work should be performed by an authorized serviceman. Use only original spare and wear parts.

Tradesarc 150-1 and Tradesarc 180-1 are designed and tested in accordance with the international and European standards EN 60974-1/-3 and EN 50199. It is the obligation of the service unit which has carried out the service or repair work to make sure that the product still conforms to the said standard.

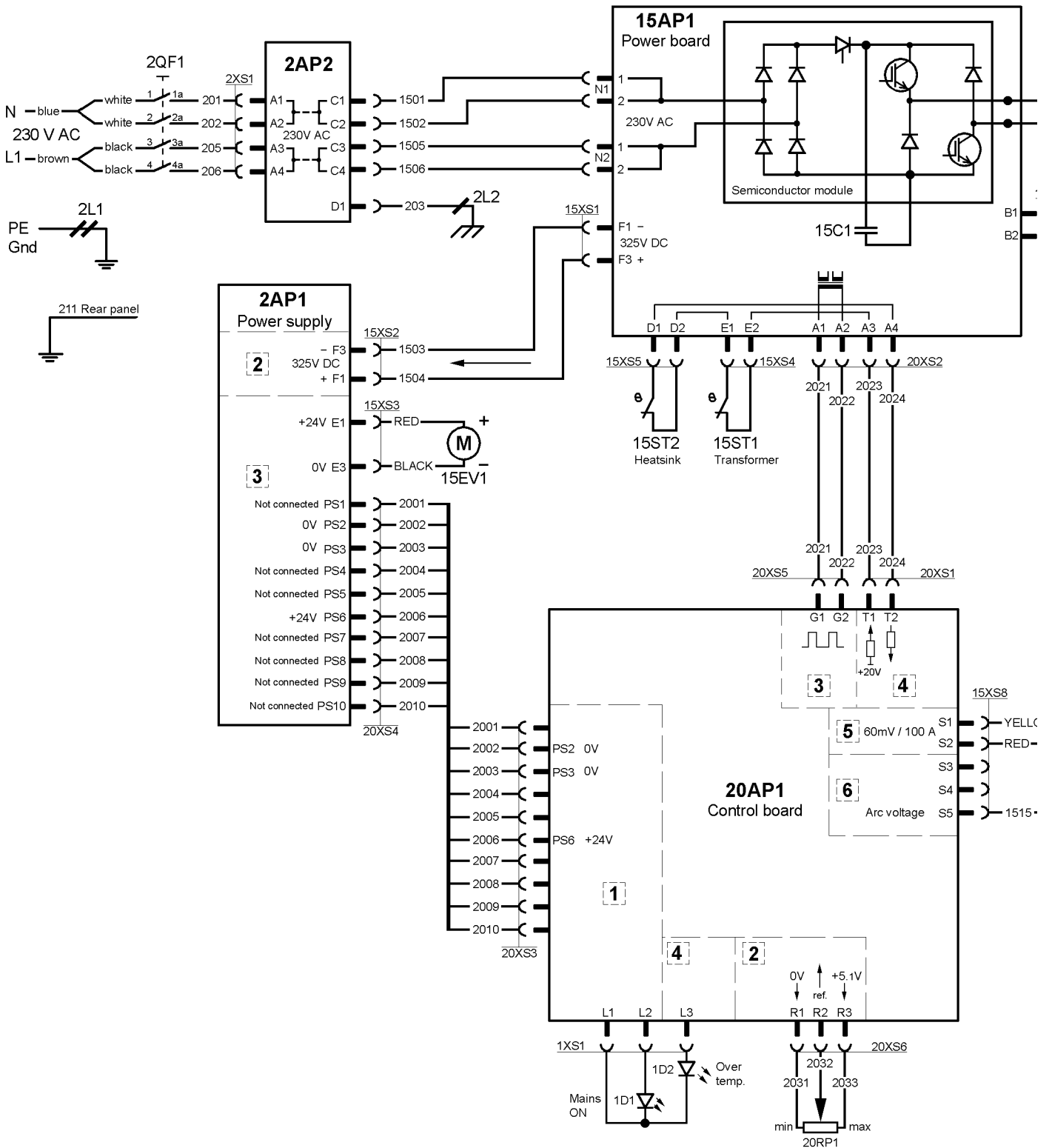
Diagram

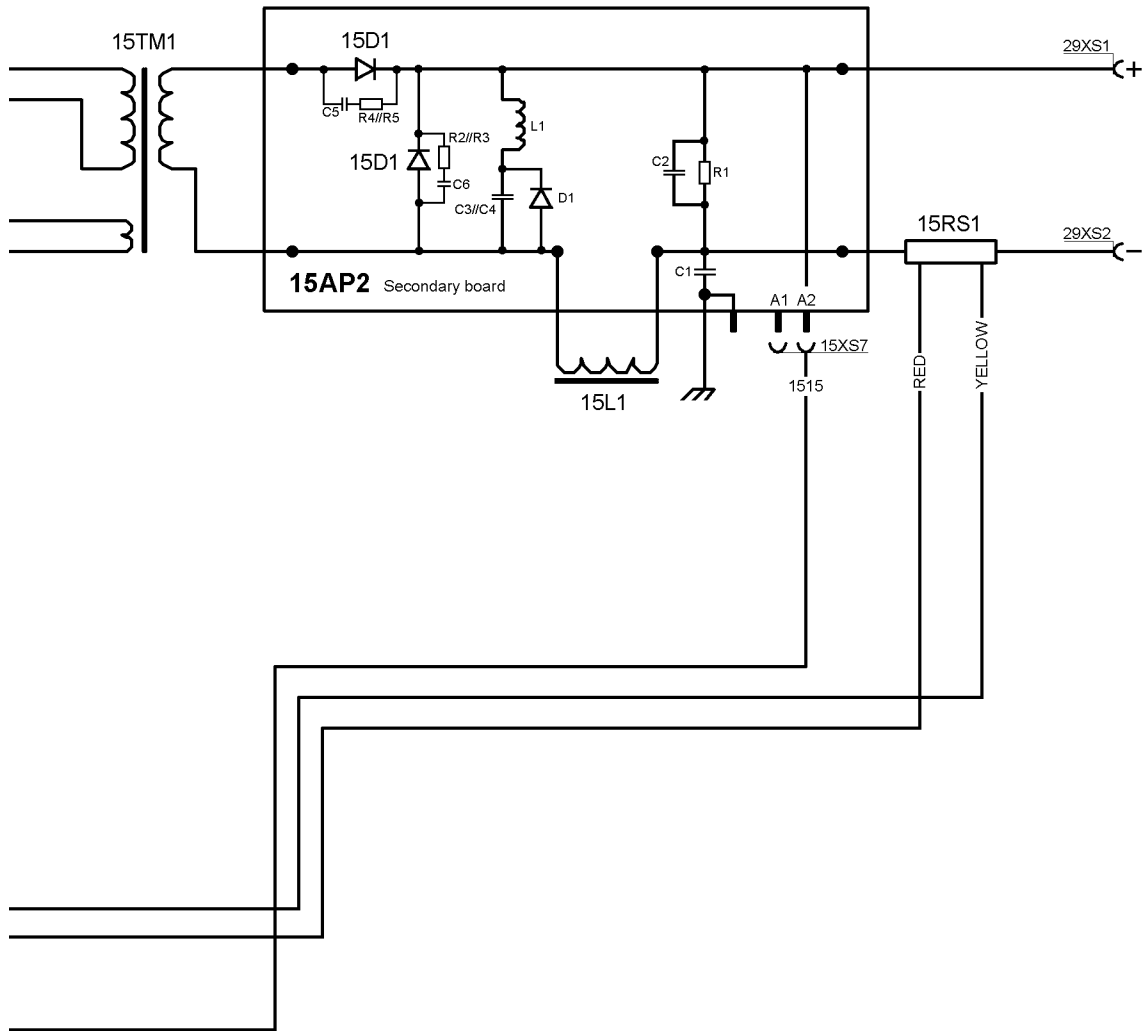
Tradesarc 150-1





Tradesarc 180-1





Spare parts list



Valid for serial no. 517-xxx-xxxx

Ordering number

0459 760 880 Tradesarc 150-1

0459 760 882 Tradesarc 180-1

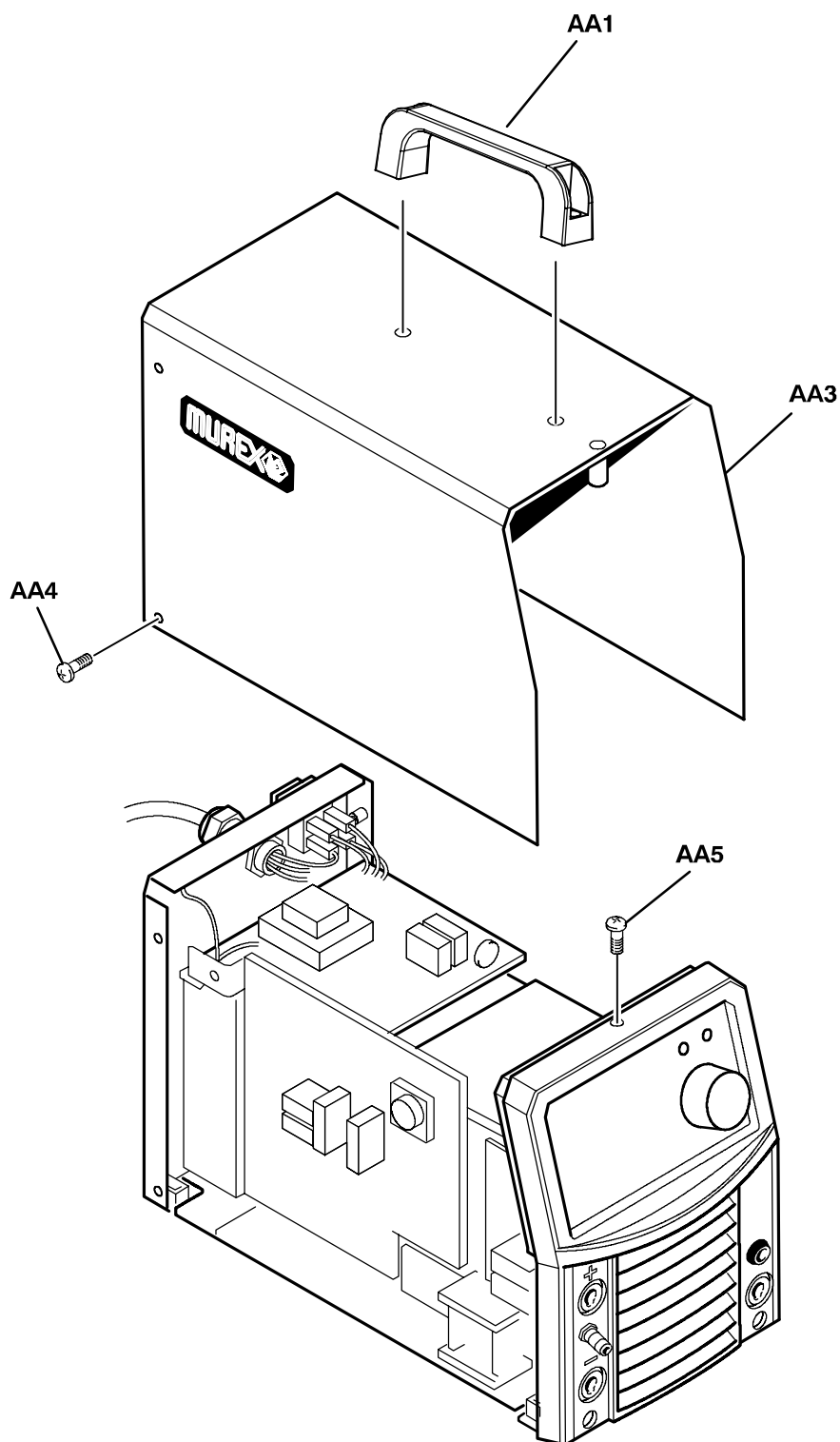
Spare parts are to be ordered through the nearest MUREX agency. Kindly indicate type of unit, serial number, denominations and ordering numbers according to the spare parts list.

Maintenance and repair work should be performed by an experienced person, and electrical work only by a trained electrician. Use only recommended spare parts.

Tradesarc 150-1, Tradesarc 180-1

C = component designation in the circuit diagram

Item	Qty	Ordering no.	Denomination	Notes	C
AA1	1	0459 654 001	Handle		
	2		Screw	M8x50	
AA3	1	0459 173 002	Cover		
AA4	4		Screw	M5x12	
AA5	1		Screw	M5x16 Included in item AB51, see page 16.	



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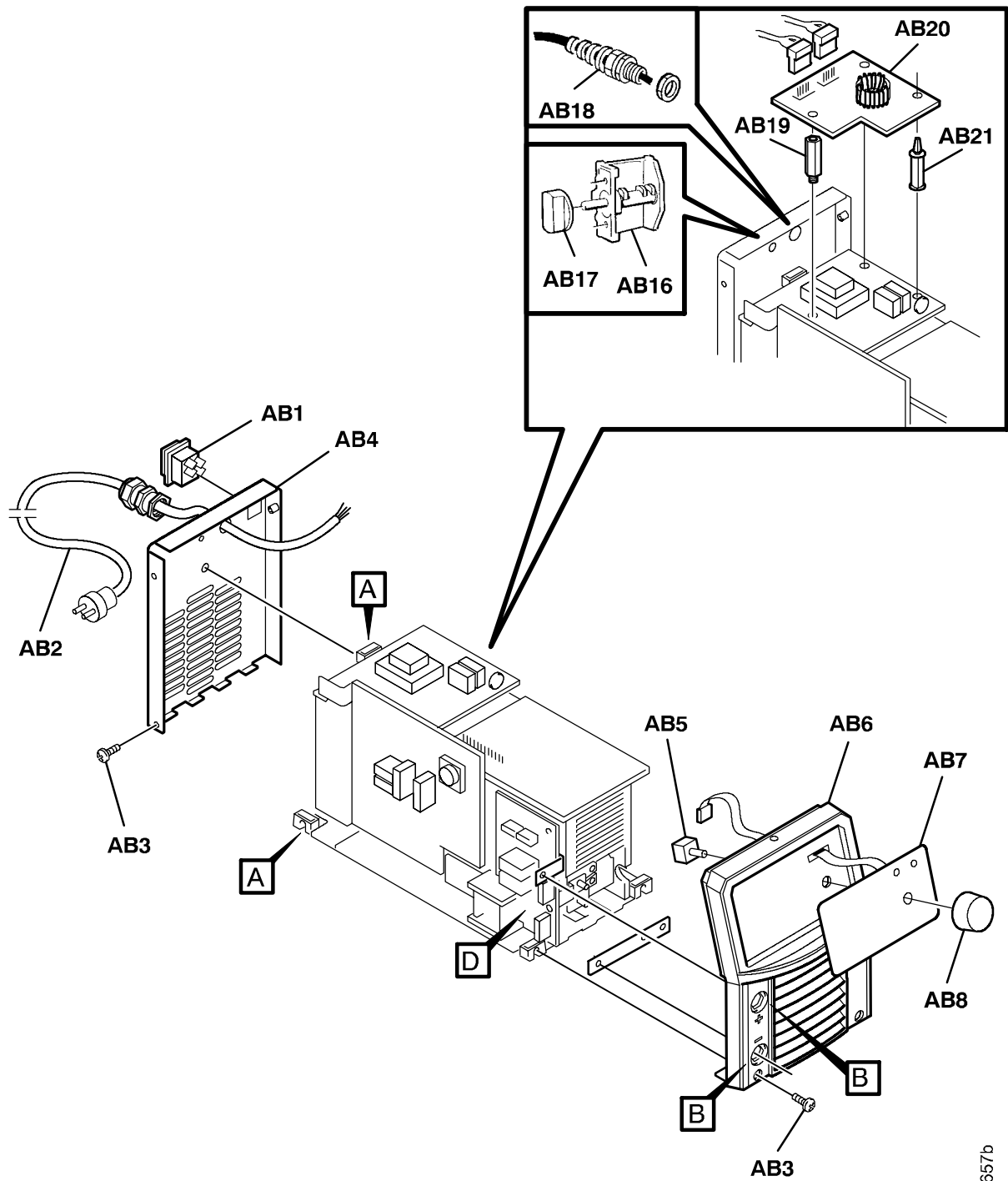
Tradesarc 150-1, Tradesarc 180-1

C = component designation in the circuit diagram

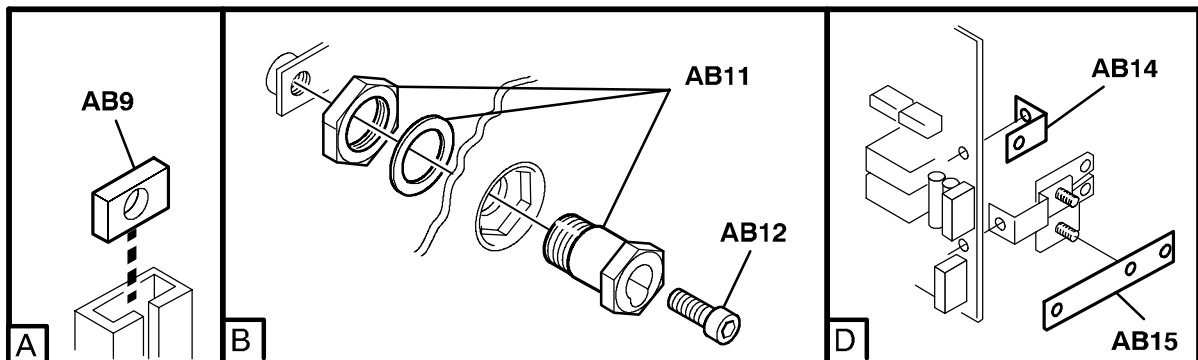
Item	Qty 150	Qty 180	Ordering no.	Denomination	Notes	C
AB1	1		0193 317 001	Switch	Included in item AB50	2QF1
AB2	1			Cord set	Included in item AB50	
AB3				Screw	Included in item AB51	
AB4	1		0459 174 001	Rear panel		20RP1
		1	0459 430 001	Rear panel		
AB5	1	1	0193 995 502	Potentiometer	3 pole socket 20XS6 and wires included. Included in item AB51	
AB6	1	1		Front panel	Included in item AB51	1D1, 1D2, 1XS1
AB7	1	1		Control panel	Included in item AB51	
AB8	1	1	0193 603 104	Knob	Included in item AB51	
AB9	5	5	0366 588 001	Nut		29XS1, 29XS2
AB11	2	2	0366 306 883	Connector OKC 25	Included in item AB51	
AB12	2	2		Screw	M5x12 Torx. Included in item AB51	
AB14	1	1	0459 194 003	Busbar, positive		2QF1
AB15	1	1	0459 194 002	Busbar, negative		
AB16		1	0366 295 003	Switch	Included in item AB52	
AB17		1	0366 296 003	Knob	Included in item AB52	
AB18		1		Cord set	Included in item AB52	
AB19		1		Spacer	included in item AC1	
AB20		1	0487 023 880	EMC board	Suppression board	
AB21		1	0192 790 111	Spacer		2AP2

SPARE PARTS SETS

Item	Qty 150	Qty 180	Ordering no.	Denomination	Notes
AB50	1		0459 183 880	Mains module	Includes items: AB1 switch, AB2 mains cable with plug, cable clamp and two ferrite rings 2L1.
AB51	1		0459 386 885	Front complete, MMA	Includes items: AA5, AB3, AB5, AB6, AB7, AB8, AB11, AB12
		1	0459 386 887	Front complete, MMA	Includes items: AA5, AB3, AB5, AB6, AB7, AB8, AB11, AB12
AB52		1	0459 183 881	Mains module	Includes items: AB16 switch, AB17 knob, AB18 mains cable, cable clamp and one ferrite ring 2L1.



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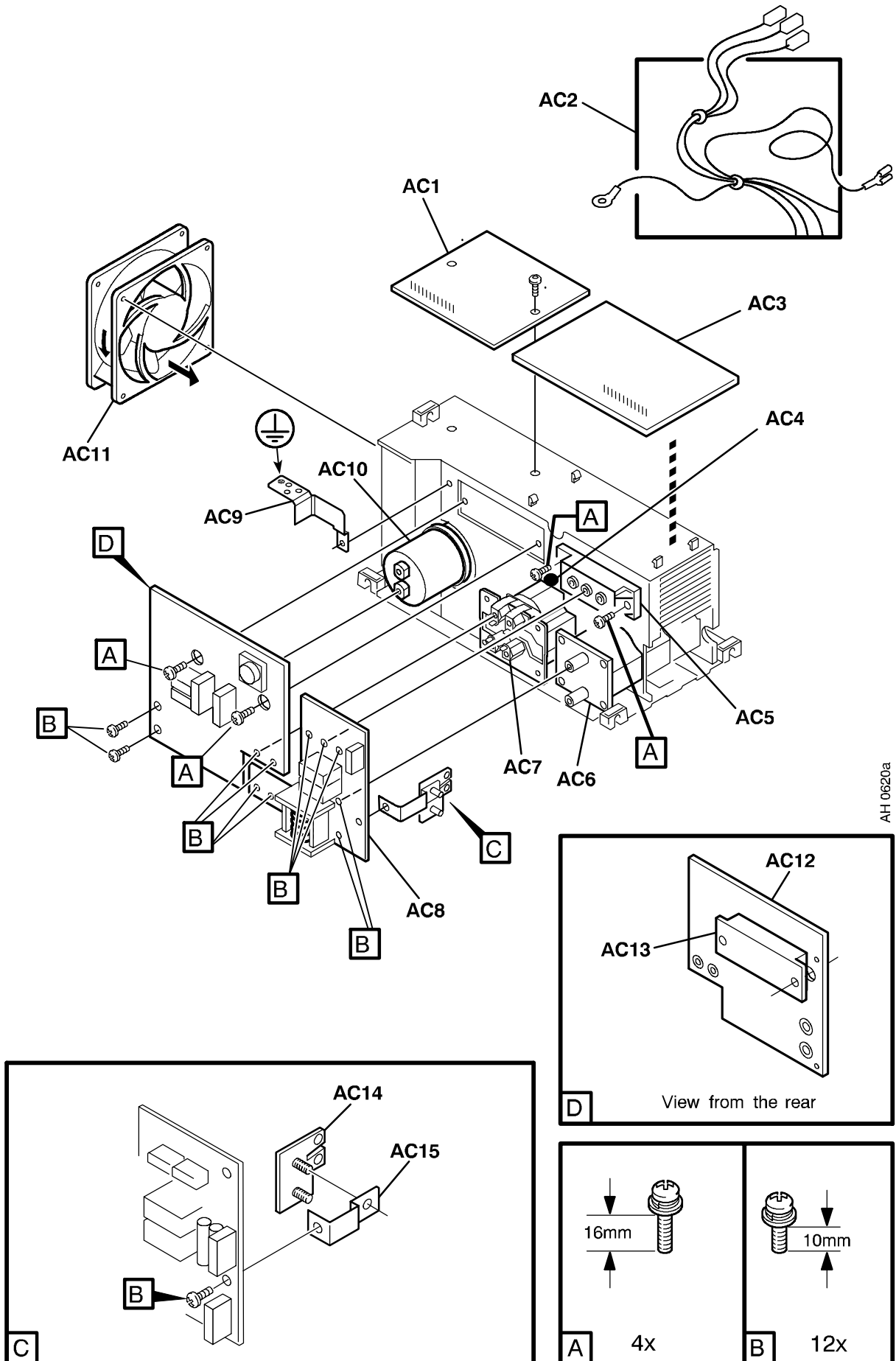
Tradesarc 150-1, Tradesarc 180-1

C = component designation in the circuit diagram

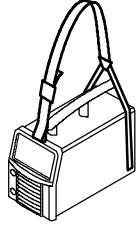
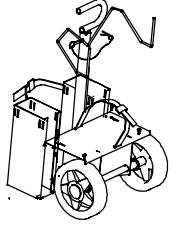
Item	Qty 150	Qty 200	Ordering no.	Denomination	Notes	C
AC1	1		0487 045 880	Power supply board		2AP1
		1	0487 045 882	Power supply board		2AP1
AC2	1		0459 280 880	Cable set	Including wires 1501, 1502 and their sockets	15XS1, 15XS2, 15XS7, 15XS8
		1	0459 280 888	Cable set	Including wires 1501, 1502, 1505, 1506 and their sockets	15XS1, 15XS2, 15XS7, 15XS8
		1	0459 280 889	Cable set	Wires 201, 202, 205, 206 and their sockets	2XS1
	1	1	0193 700 702	Cable set		20XS3, 20XS4
	1	1	0459 280 881	Cable set		20XS1, 20XS2, 20XS5
AC3	1		0487 005 880	Control board		20AP1
		1	0487 005 890	Control board		20AP1
AC4	1		0468 940 004	Thermal switch	Socket connector 15XS5 included	15ST2
		1	0468 940 005	Thermal switch	Socket connector 15XS5 included	15ST2
AC5	1	1		Diode module	See item AC50	15D1
AC6	1	1	0459 177 001	Inductor		15L1
AC7	1	1	0459 355 880	Transformer	Includes: main transformer, socket 15XS4, socket 15XS6, thermal switch 15ST1	15TM1
AC8			0487 060 880	Secondary board		15AP2
AC9	1	1	0459 273 001	Earth bracket		
AC10	1		0194 158 001	Capacitor	1000 uF 400 V DC	15C1
		1	0194 158 002	Capacitor	2000 uF 400 V DC	15C1
AC11	1		0467 801 002	Fan	24 V DC; With cables and socket 15XS3	15EV1
AC11		1	0458 065 002	Fan	24 V DC; With cables and socket 15XS3	15EV1
AC12	1	1		Circuit board	See item AC51	15AP1
AC13	1	1		Semiconductor module	See item AC51	
AC14	1	1	0468 030 880	Shunt		15RS1
AC15	1	1	0459 194 001	Busbar		

SPARE PARTS SETS

Item	Qty 150	Qty 200	Ordering no.	Denomination	Notes
AC50	1		0459 385 880	Diode module kit	Includes: item AC5 diode module, screws (type A and B), thermal compound and roller.
		1	0459 385 881	Diode module kit	Includes: item AC5 diode module, screws (type A and B), thermal compound and roller.
AC51	1		0459 384 880	Power board kit	Includes: item AC12 power board, item AC13 semiconductor module, screws (type A and B), thermal compound and roller.
		1	0459 384 881	Power board kit	Includes: item AC12 power board, item AC13 semiconductor module, screws (type A and B), thermal compound and roller.
-			0458 910 002	Roller handle	For the roller in the spare parts sets above
-			0192 058 101	Thermal compound	



Accessories

	<p>MMA welding and return cable kit ("crocodile" type holder) 0349 501 078</p> <p><i>Suitable for Tradesarc 150-1</i></p>
	<p>MMA welding and return cable kit ("screwe" type holder) 0349 501 079</p> <p><i>Suitable for Tradesarc 150-1</i></p>
	<p>MMA welding and return cable kit ("screwe" type holder) 0700 006 881</p> <p><i>Suitable for Tradesarc 200-1</i></p>
	<p>Shoulder strap 0459 368 880</p>
	<p>Trolley for small gas bottle 0459 366 880</p>



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